

PTO/SB/02 (09-03)

Approved for use through 11/30/2005. OMB 0651-0035

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**REVOCATION OF POWER OF  
ATTORNEY WITH  
NEW POWER OF ATTORNEY  
AND  
CHANGE OF CORRESPONDENCE ADDRESS**

Application Number	09/739,979
Filing Date	December 20, 2000
First Named Inventor	Gary Q. Jin
Art Unit	2634
Examiner Name	Eva Y. Zheng
Attorney Docket Number	AP1098US

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.

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OR

☒ I hereby appoint the practitioners associated with the Customer Number: 33361

☒ Please change the correspondence address for the above-identified application to:

☒ The address associated with  
Customer Number:

33361

OR

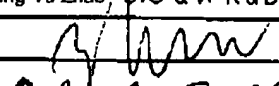
<input type="checkbox"/> Firm or Individual Name				
Address				
Address				
City		State		Zip
Country				
Telephone		Fax		

I am the:

☐ Applicant/Inventor.

☒ Assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

**SIGNATURE of Applicant or Assignee of Record**

Name	Ping-Ya Zhao, CTO & VP R & D 1021 Technologies KK		
Signature			
Date	Oct 24, 2004	Telephone	613 271 3789

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☒ \*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/08 (09-03)

Approved for use through 07/31/2008. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: 1021 Technologies KKApplication No./Patent No.: 09/739,979 Filed/Issue Date: December 20, 2000Entitled: DMT Bit Allocation with Imperfect TEQ1021 Technologies KK, a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.  
The extent (by percentage) of its ownership interest is \_\_\_\_\_ %  
in the patent application/patent identified above by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: Gary Q. Jin To: Mitel Corporation  
The document was recorded in the United States Patent and Trademark Office at Reel 011386, Frame 0889, or for which a copy thereof is attached.
2. From: Mitel Corporation To: Zarlink Semiconductor Inc.  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: Zarlink Semiconductor Inc To: 1021 Technologies KK  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

- ☐ Copies of assignments or other documents in the chain of title are attached.  
(NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08)

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee:

Oct 24, 2004  
Date

613 271 3789  
Telephone number

Ping-Ya Zhao  
Typed or printed name

[Signature]  
Signature

CTO & Vice President R & D  
Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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I HEREBY CERTIFY THAT THE  
ATTACHED IS A TRUE COPY OF THE  
DOCUMENT MAINTAINED IN THE  
RECORDS OF THE DIRECTOR.

JE CERTIFIE, PAR LES PRÉSENTES, QUE LE  
DOCUMENT CI-JOINT EST UNE COPIE  
EXACTE D'UN DOCUMENT CONTENU  
DANS LES LIVRES TENUS PAR LE  
DIRECTEUR.

Deputy Director - Directeur adjoint

Date



Canada

**CANADA BUSINESS  
CORPORATIONS ACT  
FORM 4  
ARTICLES OF AMENDMENT  
(SECTION 27 OR 177)**

**1 - Name of Corporation**

**MITEL CORPORATION/  
MITEL S.C.C.**

**2 - Corporation No.**

**030203-1**

**3 - The articles of the above-named Corporation are amended as follows:**

Section 1 of the articles of incorporation be and the same is hereby deleted and replaced by the following:

**1 - Name of the Corporation**

**ZARLINK SEMICONDUCTOR INC.**

**Date**

**July 25, 2001**

**Signature**

**Donald G. McIntyre**

**Title**

**Senior Vice President Human Resources,  
General Counsel and Secretary**

**FOR DEPARTMENTAL USE ONLY**

**Filed**

**JUL 30 2001**



Industry Canada

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Certificate  
of AmendmentCertificat  
de modificationCanada Business  
Corporations ActLoi canadienne sur  
les sociétés par actions

ZARLINK SEMICONDUCTOR INC.

030203-1

Name of corporation-Dénomination de la société

Corporation number-Numéro de la société

I hereby certify that the articles of the  
above-named corporation were amended:Je certifie que les statuts de la société  
susmentionnée ont été modifiés:

- |   |   |
|---|---|
| a) under section 13 of the <i>Canada Business Corporations Act</i> in accordance with the attached notice;  | <input type="checkbox"/> a) en vertu de l'article 13 de la <i>Loi canadienne sur les sociétés par actions</i> , conformément à l'avis ci-joint;   |
| b) under section 27 of the <i>Canada Business Corporations Act</i> as set out in the attached articles of amendment designating a series of shares; | <input type="checkbox"/> b) en vertu de l'article 27 de la <i>Loi canadienne sur les sociétés par actions</i> , tel qu'il est indiqué dans les clauses modificatrices ci-jointes désignant une série d'actions; |
| c) under section 179 of the <i>Canada Business Corporations Act</i> as set out in the attached articles of amendment;                               | <input checked="" type="checkbox"/> c) en vertu de l'article 179 de la <i>Loi canadienne sur les sociétés par actions</i> , tel qu'il est indiqué dans les clauses modificatrices ci-jointes;                   |
| d) under section 191 of the <i>Canada Business Corporations Act</i> as set out in the attached articles of reorganization;                          | <input type="checkbox"/> d) en vertu de l'article 191 de la <i>Loi canadienne sur les sociétés par actions</i> , tel qu'il est indiqué dans les clauses de réorganisation ci-jointes;                           |

Director - Directeur

July 25, 2001 / le 25 juillet 2001

Date of Amendment - Date de modification

Canada

## ASSIGNMENT

In consideration of one dollar and other good and valuable consideration, receipt of which is hereby acknowledged, Zarlink Semiconductor Inc. ("Assignor") whose post office address is 400 March Road, Ottawa, Ontario, Canada K2K 3H4 hereby sells, assigns and transfers to 1021 Technologies KK ("Assignee") whose post office address is 77-12 Gomyoji, Minami-Ku, Yokohama-city, Japan 232-0067 on an "as is" basis all its rights, title and interest to the extent that any such rights, title or interest may exist in and to the following thirteen (13) inventions entitled

**Timing Recovery With Minimum Jitter Movement**

**DMT Bit Allocation with Imperfect TEQ**

**A Simple Implementation of Turbo Decoder**

**Efficient Implementation of Large Size FFT**

**Method And Apparatus for Connecting Broadband Voice And Data Signals to Telephone Systems**

**Parallel Turbo Trellis-Coded Modulation**

**Turbo Trellis-Coded Modulation**

**Combination Reed-Solomon and Turbo Coding**

**Method and Apparatus for Connecting Broadband Voice and Data Signals to Telephone Systems**

**DMT Peak Reduction Without Affecting Transmission Signal**

**Flexible Bit Selection Using Turbo Trellis-Coded Modulation**

**Fast Fourier Transform Signal Processing****Protection of Subscriber Line Interface Circuits (SLICS) without Degradation in Longitudinal Balance**

which were the subject of certain patent applications and/or issued patents in certain countries as identified and listed in Schedule A attached hereto and forming part hereof together with any rights, title and interest in and to any patents which may be re-issued based upon such patent applications and/or issued patents identified and listed in Schedule A.

And Assignor also agrees to do all such lawful acts and to execute without further consideration such further assurances, assignments, applications and other instruments as may reasonably be required by Assignee at Assignee's expense to vest such patent applications and/or issued patents identified and listed in Schedule A in Assignee.

By this Assignment, Assignee acknowledges that it assumes all responsibility for such patent applications and/or issued patents identified and listed in Schedule A commencing on the date this Assignment is executed by the parties.

SIGNED at Ottawa, Ontario this 4<sup>th</sup> day of October, 2004.

**ZARLINK SEMICONDUCTOR INC.**

By: 

Name: Desmond Byrne

Title: Vice President, Legal

**STATEMENT OF WITNESS**

I, Gail Casselman, whose full post office address is 5 Glenmoriston Ave., Ottawa, Ontario K2L 2S3 was personally present and did see Desmond Byrne who is known to me, execute this Assignment.

By: 

(signature of witness)

SIGNED at Ottawa  
this 4<sup>th</sup> day of October, 2004.

1021 TECHNOLOGIES KK

By: [Signature]

Name:

Ping-Ya Zhao

Position:

CTO & VP R&D

STATEMENT OF WITNESS

I, WENTAO LI, whose full post office address is 17 portadown Crescent  
Kanata, ON K2W 1E8  
was personally present and did see  
who is known to me, execute the above Assignment.

By: [Signature]

(signature of witness)



SCHEDULE A

Invention Title	Country	Date Filed	Application Serial No.	Patent No.
Timing Recovery with Minimum Jitter Movement	Great Britain	24-Oct-97		2330736
	France	19-Oct-98	9813231	
	US	30-Sep-98		6,138,244
DMT Bit Allocation with Imperfect TEQ	Great Britain	23-Dec-99		2357937
	US	20-Dec-00	09/739,979	
	China	23-Jun-02	817662.0	
A Simple Implementation of Turbo Decoder	US	26-Feb-01	09/791,608	
Efficient Implementation of Large Size FFT	US	31-Aug-01	09/942,628	
	China	04-Sep-01	1131035.9	
Method and Apparatus for Connecting Broadband Voice and Data Signals to Telephone Systems	US	12-Apr-01	09/832,980	
	Germany	24-Apr-01	101 20 197.4	
Parallel Turbo Trellis-Coded Modulation	US	01-May-00		6,757,859
	China	27-Apr-01	1115658.9	
	France	27-Apr-01	01 05764	
Turbo Trellis-Coded Modulation	US	01-May-00		6,671,327
	France	27-Apr-01	01 05783	
Combination Reed-Solomon and Turbo Coding	Great Britain	10-Aug-00		2386159
	US	10-Aug-01	09/925,486	
	Germany	09-Aug-01	10139116.1	
	France	10-Aug-01	01 10707	
Method and Apparatus for Connecting Broadband Voice and Data Signals to Telephone Systems	Great Britain	26-Jun-00		2364200
	US	21-Jun-01		6,674,845
	Germany	25-Jun-01	101 30 029.8	
	France	26-Jun-01	108389	
DMT Peak Reduction Without Affecting Transmission Signal	US	01-Mar-02	10/085,061	
	France	01-Mar-02	02 02603	
	Japan	01-Mar-02	2002-104528	
Flexible Bit Selection Using Turbo Trellis-Coded Modulation	Great Britain	23-Mar-01	107295.8	
	US	18-Mar-02	10/098,474	
	France	22-Mar-02	02 03602	

P.

JB

SCHEDULE A

Invention Title	Country	Date Filed	Application Serial No.	Patent No.
Fast Fourier Transform Signal Processing	US	30-Jan-03	10/353,983	
	Europe	30-Jan-03	3100197.7	
Protection of Subscriber Line Interface Circuits (SLICS) without Degradation in Longitudinal Balance	US	29-Jan-01	09/770,610	